

REMARKS

Reconsideration and further examination is respectfully requested. Claims 1-26 are currently pending in this application.

Claim Objection

Claim 17 was objected to as a means claim being dependent upon a method claim. Applicants have amended claim 17 to depend from claim 14, and as such submits that the rejection has been overcome, and ask that it be withdrawn.

Claims 1-26:

Claims 1-26 were rejected under 35 U.S.C. §103(a) as being unpatentable over Lee (6,904,018) in view of Chuah (6,408,001).

In order to support a rejection under 35 U.S.C. §103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Applicants respectfully submit that the combination of Lee and Chuah fails to satisfy this burden for at least the following reasons.

1. Combination neither discloses nor suggests the invention of claims 1-26Lee:

Lee (US 6,904,018) discloses a method for high speed rerouting in a MPLS network. This method more particularly relates to the protection and recovering of a multipoint to point label switch path or LSP, by contrast with a point to point LSP (e.g. col.2, 1.56-61 and col.3, 1.44-47).

According to the method disclosed by Lee, a backup LSP comprising a point to multipoint reverse anycast tree is set and a traffic stream is transferred, at a LSR sensed a failure, through the reverse anycast tree by looping back the traffic stream in a reverse direction when a failure occurs in a link in the MPLS network (see claim 1).

Lee describes, at column 3, lines 62-67:

“...To achieve the above object, there is provided a method for high speed rerouting in a multi protocol label switching (MPLS) network, the method comprising the steps of controlling a traffic stream to flow in a reverse direction in a point where node or link failure occurs by using a backup Label Switched Path (LSP) comprising an Explicitly Routed (ER) LSP having a reverse tree of a protected multipoint-to-point LSP and an ingress LSR through an egress LSR.”

Thus Lee describes a method which uses Explicit Routing to identify a reverse path. Applicants note that no mention is made, in Lee of transforming a label stack. According to claim 1 of the present application as amended to make it clearer, at least one node of the backup LSP is configured to process the label stack of any packet transmitted along the backup LSP so as to apply the same transformation as said transformation of the label stack of a packet transmitted along said portion of the primary LSP from an output of the first node to an input of the second node. No such feature is shown or suggested in Lee.

Chuah:

Chuah describes, in column 2:

“...A router, utilizing the method of the present invention in a destination based merging approach, first detects a plurality of unlabeled packets having a common destination address. The router then determines the quantity of unlabeled packets conveyed through the router, and having

the common destination address, over a given period of time. The resulting quantity is called the packet transport density. The router maintains at least two packet transport density threshold values with which to compare the calculated packet transport density. ... if the calculated packet transport density value is between either threshold value, or is equal to either threshold value, then the packet transport density value is considered sufficiently large to warrant establishing a switched-packet flow. In accordance with one embodiment of the present invention, the router first searches for an existing label associated with an established layer two packet flow having a common downstream destination... If such a label does exist, then an opportunity to merge two switched-packet flows over neighboring routers was found. The two corresponding switched-packet flows may be merged without further inquiry, or in an alternative embodiment, the router may investigate the quality of service guarantees, if any, associated with the respective switched-packet flows ... Advantageously, the multiple packet transport density threshold value scheme, in accordance with the present invention, allows routers to use and maintain a smaller quantity of total labels..."

Thus, Chuah is concerned with merging paths having similar transport densities to conserve label use.

Applicants refer the Examiner to pages 2 – 3 of Applicants' instant specification, which describes a common problem with systems such as Lee's and Chuah's:

"... The backup LSP may also span more than two successive links of the protected LSP. For example, in the previous case, the two LSPs may merge in router D. This may provide the path recovery function in cases where the failure detected by B occurs in router C. However, it is inoperative whenever the backup LSP bypasses a LSR which performs some action on the MPLS label stack (pushing, popping, swapping). In our example, if C changes the label stack, D will not get the packets with correct labels along the backup LSP and therefore will not switch or process them as required..."

Applicants' respectfully submit that the solutions provided by Lee and by Chuah do nothing to overcome the problems of the prior art, as they do not perform the steps of the claimed invention of "...determining a transformation of the label stack of a packet transmitted along said portion of the primary LSP from an output of the first node to an input of the second node ... configuring the first node to switch a packet to the backup LSP upon detection of a failure in said portion of the primary LSP... and configuring at least one node of the backup LSP to process the

label stack of any packet transmitted along the backup LSP so as to apply the same transformation as said transformation of the label stack of a packet transmitted along said portion of the primary LSP from an output of the first node to an input of the second node...”

The Examiner states, at page 7 of the office action:

“... The applicant argues that the references, Lee and Chuah, as a combination would not teach all of the limitations and also that there is no motivation to combine those references...

In particular, the applicant argues that the combination do not teach the idea of ‘the transform of the label stack as an input to the second node.’ The examiner disagrees, the limitation merely states determining a transformation of the label of a packet transmitted along said portion of the primary LSP from an output of the first node to an input of the second node,” the examiner, reading the broadest possible interpretation of the claim in light of the specification, reads this limitation to read that the LSP of the network is transformed for a packet to change an output at a first node to route the packet to an input of a second node. The reference Lee, discloses a fault recovery system in a MPLS system that uses a backup LSP when the primary fails, this backup LSP takes over, changing the former route of a packet that would have traveled the primary route as seen in Figure 4, from LSR 1 to LSR 2, but due to the broken connection, the packet’s route is moved to the output of LSR 1 to LSR 2, to now route the packet from LSR 1 to LSR3, thus transforming the LSP to the backup route and changing the first node output and the second node input...”

The Examiner appears to rely on a portion of Lee which describes the mere use of a backup path. As best can be understood by the Applicants, it would appear that the Examiner is stating that ‘transforming’ the label stack is met by the mere change of route designation in Lee.

Applicants have amended the independent claims to more clearly distinguish over the mere changing of router identifier that is provided in Lee. For example, independent claim 1 now recites the step of “...to process the label stack of any packet transmitted along the backup LSP so as to apply *the same transformation as said transformation of the label stack of a packet transmitted along said portion of the primary LSP from an output of the first node to an input of the second node ...*” Neither Lee nor Chuah, alone or in combination, describe or suggest such a limitation, and as such claim 1 is patentably distinct over the combination of references, and it is requested that the rejection be withdrawn.

Dependent claims 2-13 serve to add further patentable limitations to claim 1 but are allowable for at least the reasons put forth with regard to claim 1.

Claims 14-26:

Claim 14 recites “...A label switching network including a primary label switched path (LSP) ... comprising ... means for defining at least one backup LSP starting from the first node and merged with the primary LSP at the second node ... *means for determining a transformation of the label stack of a packet transmitted along said portion of the primary LSP from an output of the first node to an input of the second node* ... means for configuring the first node to cause said first node to switch a packet to the backup LSP upon detection of a failure in said portion of the primary LSP ... and means for configuring a node of the backup LSP to cause said node to process the label stack of any packet transmitted along the backup LSP so as to apply *the same transformation as said transformation of the label stack of a packet transmitted along said portion of the primary LSP from an output of the first node to an input of the second node...*”

Thus, for reasons similar to those put forth with regard to claim 1, claim 14 is also patentably distinct over the combination of references, and the rejection should be withdrawn. Dependent claims 15-26 serve to add further patentable limitations to claim 14 and are therefore allowable with claim 14.

2. No motivation for the modification suggested by the Examiner

There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary

skill in the art." *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998)..."

"...The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)..."

Although the Examiner states that 'Improving the performance in Lee is the motivation to combine the reference with Chuah...' it would appear to the Applicants that the only motivation for modifying Lee to include label stacks that are transformed in the particular manner suggested by the Examiner can be found using the Applicants' specification.

"Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references." Dembiczak, 175 F.3d at 999; see also Ruiz, 234 F.3d at 665 (explaining that the temptation to engage in impermissible hindsight is especially strong with seemingly simple mechanical inventions). This is because "[c]ombining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight." Dembiczak, 175 F.3d at 999. Therefore, we have consistently held that a person of ordinary skill in the art must not only have had some motivation to combine the prior art teachings, but some motivation to combine the prior art teachings in the particular manner claimed. See, e.g., *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000) ("Particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed."); *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998) ("In other words, the

examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.”). *Teleflex v. KSR International*, 04-1152 (CAFC 2005)

Accordingly, for at least the reason that there does not appear to be sufficient motivation to modify the references in the particular manner needed to meet the limitations of the claims, it is respectfully requested that the rejection be withdrawn.

Conclusion

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Applicants' Attorney at the number listed below so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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Date

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